

Subject: Petition for Exemptions from certain provisions of 14 CFR § 61, AW609**Introduction**

AgustaWestland Philadelphia Corporation (AWPC) is a wholly owned subsidiary of Leonardo Helicopter Division, whose core focus is the production of helicopters and tiltrotors

From 2022 AWPC will be conducting acceptance test flights, maintenance test flights, and aircraft delivery flights of the AW609 tiltrotor.

The AW609 tiltrotor is a vertical take-off and landing (VTOL¹) aircraft manufactured by AgustaWestland Philadelphia Corporation (AWPC). The AW609 is capable of climbing to a mid-level altitude and cruise as an airplane at turboprop-like airspeeds and ranges. The AW609 has a Maximum Takeoff Weight of 18,000 pounds which would be classified as a large (>12,500 pound) aircraft. The AW609 tiltrotor aircraft is capable of Transport Category Performance. The AW609 will operate in the IFR environment and can operate at approach airspeeds less than 91 knots (Approach Category A)² The minimum crew for all flight conditions is two pilots.

Per the FAA AW609 G-1 Issue Paper³: AW609 Certification Basis (Project TC3491RC-R), § TR.1 *Applicability*⁴, AWPC and the Federal Aviation Administration (FAA) have agreed that the

¹ Aeronautical Information Manual, U.S. Department of Transportation, Federal Aviation Administration with Change 1, May 26, 2016

² 14 CFR § 97.3

Symbols and terms used in procedures.

[As used in the standard instrument procedures prescribed in this part--

Aircraft approach category means a grouping of aircraft based on a speed of VREF, if specified, or if VREF is not specified, 1.3 Vso at the maximum certificated landing weight. VREF, Vso, and the maximum certificated landing weight are those values as established for the aircraft by the certification authority

of the country of registry. The categories are as follows--

(1) Category A: Speed less than 91 knots.

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³ The G-1 Issue Paper is the codification of the aircraft Certification Basis per FAA Advisory Circular 20-166 4. d.; dated 15 June 2010

⁴ The FAA G-1 Issue Paper Stage 2, AW609 Certification Basis; dated June 6, 2016: AW609 Certification Basis, **Subpart A – General, § TR 1 Applicability** includes a new Section reference “TR” which is either a new requirement or a edited/modified paragraph from 14 CFR parts 23/25/29; and,

(c) Terms used throughout Certification Basis shall be interpreted as follows:

“Rotorcraft”, “Category A rotorcraft” means “tiltrotor aircraft”.

“Airplane” means “tiltrotor aircraft”.

“Aileron”, “flap” means “flaperon”.

“Rudder” means “directional control”.

“Rotor, propeller” means “propotor”.

AW609 “ . . . [c]ertification basis was written to reflect transport category requirements.” The AW609 qualifies under the special class of aircraft definition per FAA Part 21.17(b) for defining the certification basis.

The AW609 certification basis originates from CFR 14 Subchapter C requirements of Part 29, Part 25, and Part 23, and new Tiltrotor requirements. The new Tiltrotor requirements (§ TR.XX) consist of a combination of the 14 CFR Parts 29/25/23; modified 29/25/23 CFR 14 Parts; or entirely new requirements deemed necessary to provide an appropriate level of safety for the AW609. The majority of the new Tiltrotor requirements were in the Subparts B (Flight) & G (Operating Limitations) and Appendix H (Normal Category Performance). AWPC expects to receive its AW609 Type Certificate in 2022. Type rating in the AW609 will be granted via an FAA approved Part 142 training program on a Level D full flight simulator in Philadelphia.

As far back as 1997, the FAA began preparing regulations to accommodate aircraft capable of these types of operations. The FAA has published a Final Rule⁵ to establish the Tiltrotor Class (Part 21.93 (b) (5)) and the applicable Tiltrotor Noise Standards (Part 36, Appendix K). As defined in Part 36, a tiltrotor “means a class of aircraft capable of vertical take-off and landing, within the powered-lift category, with rotors mounted at or near the wing tips that vary in pitch from near vertical to near horizontal configuration relative to the wing and fuselage.” Current Part 61 regulations have not established aeronautical experience requirements for a tiltrotor class. Part 61 regulations currently contain requirements for pilot certificates with a powered-lift category rating. The current regulations require an airman seeking a powered-lift category rating to have logged flight time in a powered-lift aircraft. As the AW609 is a type rated aircraft that is certificated for two pilots, there is no way to achieve and meet Part 61 aeronautical experience requirements in an AW609. The FAA has never certified any other civil-use aircraft in the powered-lift category. This results in a situation in which no method of complying with the regulations exists for civilian pilots.

Information required by 14 CFR § 11.81

(a) Name: Jason Court
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⁵ Ibid. 1

(b) Section of 14 CFR from which Exemption is Requested

Jason Court is seeking an exemption from the following sections:

- 14 CFR § 61.51 for the Model AW609:

14 CFR §61.51 Pilot logbooks.

* * *

(e) Logging pilot-in-command flight time. (1) A sport, recreational, private, commercial, or airline transport pilot may log pilot in command flight time for flights-

(i) When the pilot is the sole manipulator of the controls of an aircraft for which the pilot is rated, or has sport pilot privileges for that category and class of aircraft, if the aircraft class rating is appropriate;

(ii) When the pilot is the sole occupant in the aircraft;

(iii) When the pilot, except for a holder of a sport or recreational pilot certificate, acts as pilot in command of an aircraft for which more than one pilot is required under the type certification of the aircraft or the regulations under which the flight is conducted; or

(iv) When the pilot performs the duties of pilot in command while under the supervision of a qualified pilot in command provided—

(A) The pilot performing the duties of pilot in command holds a commercial or airline transport pilot certificate and aircraft rating that is appropriate to the category and class of aircraft being flown, if a class rating is appropriate;

* * *

- 14 CFR § 61.55 for the Model AW609:

14 CFR §61.55 Second-in-command qualifications.

(a) A person may serve as a second-in-command of an aircraft type certificated for more than one required pilot flight crewmember or in operations requiring a second-in-command pilot flight crewmember only if that person holds:

(1) At least a private pilot certificate with the appropriate category and class rating; and

(2) An instrument rating or privilege that applies to the aircraft being flown if the flight is under IFR; and

(3) At least a pilot type rating for the aircraft being flown unless the flight will be conducted as domestic flight operations within the United States airspace.

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- 14 CFR § 61.163 for the Model AW609:

14 CFR § 61.163 Aeronautical experience: Powered-lift category rating.

(a)

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(3) 250 hours in a powered-lift as a pilot in command, or as a second in command performing the duties of a pilot in command under the supervision of a pilot in command, or any combination thereof, which includes at least--

(i) 100 hours of cross-country flight time; and

(ii) 25 hours of night flight time.

(4) 75 hours of instrument flight time in actual or simulated instrument conditions, subject to the following:

* * *

- The applicant is not seeking an exemption to 14 CFR § 61 Subpart H. A pilot seeking CFI/CFII add-on can reasonably be expected to log the minimum experience of at least 15 hours as pilot in command in the category and class of aircraft that is appropriate to the flight instructor rating sought, and complete the category theory exam and practical test.

(c) Extent of Relief Sought and Reason

Extent of Relief Sought

Jason Court is requesting the following relief:

- 14 CFR §61.31 Type rating requirements, additional training, and authorization requirements.
 - As no method exists of complying with the regulation, this exemption proposes that the requirement to hold the appropriate category and class rating for the aircraft being flown to act as pilot-in-command be expanded. This proposal would allow pilots holding a rating in the Airplane- Multi-engine Land or Rotorcraft-Helicopter category/class of aircraft to act as PIC of an AW609 following completion of type specific training and the supervised operating experience required by 14 CFR 61.64. This proposal is aligned with ICAO guidelines as published in ICAO Annex 01, Section 2.1.1.4 “Transitional measures related to the powered-lift category.” Exemption to 61.31 may not be required, if the regulator approves the exemptions to 61.129 and/or 61.163.
- 14 CFR §61.51 Pilot logbooks
 - As no method exists of complying with the regulation, this exemption proposes that the requirement to hold the appropriate category and class rating for the aircraft being flown to log pilot-in-command time be expanded. This proposal would allow pilots holding a rating in the Airplane- Multi-engine Land or Rotorcraft-Helicopter category/class of aircraft to log pilot-in-command flight time of an AW609 following completion of type specific training. This proposal is aligned with ICAO guidelines as published in ICAO Annex 01, Section 2.1.1.4 “Transitional measures related to the powered-lift category.” Exemption to 61.51 may not be required, if the regulator approves the exemptions to 61.129 and/or 61.163.
- 14 CFR §61.55 Second-in-command qualifications
 - As no method exists of complying with the regulation, this exemption proposes that the requirement to hold the appropriate category and class rating for the aircraft being flown to act as second-in-command be expanded. This proposal would allow pilots holding a rating in the Airplane- Multi-engine Land or Rotorcraft-Helicopter category/class of aircraft to act as second-in-command of an AW609 following completion of type specific training as defined by 61.55.

This exemption proposes that an airplane or helicopter Instrument Rating may be used to satisfy the 61.55 instrument rating requirement when acting as second-in-command during operations under IFR. This proposal is aligned with ICAO guidelines as published in ICAO Annex 01, Section 2.1.1.4 “Transitional measures related to the powered-lift category.”

- 14 CFR § 61.65 Instrument rating requirements.
 - As no method exists of complying with the regulation, this exemption proposes that where the regulation requires flight time in a powered-lift aircraft, this requirement may be satisfied by using flight time in an Airplane-Multi-engine Land or Rotorcraft-Helicopter category/class of aircraft. Following completion of type specific instrument training delivered by an FAA certified Part 142 training program; this proposal would allow pilots holding an instrument rating in the Airplane-Multi-engine Land or Rotorcraft-Helicopter category/class of aircraft to take the practical test for an Instrument-Powered-lift rating. This proposal is aligned with ICAO guidelines as published in ICAO Annex 01, Section 2.1.1.4 “Transitional measures related to the powered-lift category”
- 14 CFR § 61.163 Aeronautical experience: Powered-lift category rating.
 - As no method exists of complying with the regulation, this exemption proposes that where the regulation requires flight time in a powered-lift aircraft, this requirement may be satisfied by using flight time in an Airplane- Multi-engine Land or Rotorcraft-Helicopter category/class of aircraft. Following completion of type specific training delivered by an FAA certified Part 142 training program; this proposal would allow pilots holding an Airline Transport Pilot rating in the Airplane-Multi-engine Land or Rotorcraft-Helicopter category/class of aircraft to take the practical test for an Airline Transport Pilot certificate with a powered-lift category rating. The new certificate would be issued with a supervised operating experience limitation as directed by 14 CFR 61.64. This proposal is aligned with ICAO guidelines as published in ICAO Annex 01, Section 2.1.1.4 “Transitional measures related to the powered-lift category”

Reason

The following reasons have necessitated the request for exemption

- 14 CFR §61.31 Type rating requirements, additional training, and authorization requirements.
 - No method exists of complying with the regulation for civilian pilots.
- 14 CFR §61.51 Pilot logbooks
 - No method exists of complying with the regulation for civilian pilots.
- 14 CFR §61.55 Second-in-command qualifications
 - No method exists of complying with the regulation for civilian pilots.
- 14 CFR § 61.65 Instrument rating requirements.
 - No method exists of complying with the regulation for civilian pilots.
- 14 CFR § 61.163 Aeronautical experience: Powered-lift category rating.
 - No method exists of complying with the regulation for civilian pilots.

(d) Public Interest

Funded by public dollars, the United States' Department of Defense initiated development of the first tiltrotors in the 1960's and remains the global leader in the development of this technology. The AW609 builds upon the success of the Bell-Boeing V-22 Osprey, the groundbreaking powered-lift aircraft now in service with three of the armed services of the United States. In 1997, when the fielding of the V-22 seemed imminent, the FAA published regulations covering the certification of powered-lift pilots. Unfortunately, these proactive efforts resulted in unintended consequences and, thirty years later, there remains no way to qualify non-military pilots to fly aircraft in this category. The AW609 program petitioned the FAA to mitigate these rules in 2017, but this request was denied.

The regulations as written rely on progressive experience in powered lift aircraft. While this is feasible in airplanes and helicopters which have entry level aircraft upon which pilots can build experience, it is not feasible in the nascent powered lift segment. The only path for gaining powered lift experience is through military or experimental aircraft. That path is not sustainable. Without exemptions, there is no path for experienced civil airplane or helicopter pilots to accrue the required time in a powered lift aircraft, or even for the FAA to issue powered-lift pilot certificates to internal pilots who evaluate and certify aircraft. Exemptions will create a pathway for safety conscious innovation. If this exemption is not granted, regulators jeopardize the United States' strategic advantage in fielding new and novel aircraft technologies. The International Civil Aviation Organization, with FAA participation, and the European Aviation Safety Agency (EASA) have already published guidance which resolves the

experience dilemma, and the AW609 could be fielded safely under similar regulations. As the American public funded (and continues to fund) the groundbreaking work now leading to breakthroughs in vertical flight, they deserve regulations that promote safety conscious innovation.

In addition to the arguments made above, the AW609's unique capabilities will allow operators of the aircraft to provide drastically improved services to the public compared to legacy helicopters. The AW609's speed and range will permit air ambulance services to be available to more of the public, particularly in rural areas. The AW609 enhances access to care and improved patient outcomes due to the ability to get patients to a higher level of care more rapidly.

(e) Reasons Why Granting the Exemption Would Not Adversely Affect Safety

AWPC's AW609 initial Type Rating Course will have prequalification standards as determined by the FAA's Flight Standardization Board (FSB). The content, quality and duration of the training will be under FAA control and supervision as governed by 14 CFR Part 142. The qualification of AW609 pilots will be highly standardized as there will only be one training location (Philadelphia, PA) and that is control by AWPC. AWPC is a 14 CFR § 142 Certificated Training Center. The AW609 pilot qualification curriculum will be FAA-approved by the Flight Standardization Board as part of the AW609 Type Certification Program. This curriculum is based on the draft Powered Lift Airman Certification Standard (FAA-S-ACS-17).

Jason Court holds the following certificates and ratings:

Airline Transport Pilot: Airplane Multi engine Land, Rotorcraft-Helicopter

Commercial Privileges: Airplane Single engine Land and Sea

Type Ratings: S-330; BE-200; S-70; L-382; AB-139/AW-139

Flight Instructor: Airplane Single and Multiengine; Rotorcraft-Helicopter; Instrument Airplane and Helicopter

The AW609 is a powered-lift aircraft, designed as a tiltrotor. The design, control laws and human machine interface (HMI) are consistent with traditional helicopters. The aircraft meets handling quality stability and control standards for airplanes and helicopters. The AW609 is type certificated for two pilots for all flight operations, providing redundancy and the ability to leverage diverse operational experiences to enhance safety. As over 90% of AW609 pilot tasks are either common aviation, helicopter or airplane tasks, it follows that experience in other categories directly transfers to the ability of a pilot to operate an AW609. The AW609 Initial Type Rating course design recognizes the common elements with airplane and/or helicopters,

builds upon the individual applicant's prior experience, and ensures competency in all facets of tiltrotor flight to an ATP standard. As an additional assurance of safety, at the issuance of the certificate, a supervised operating experience limitation preventing the airman from serving as PIC, will be placed on the license in accordance with 14 CFR 61.64. This limitation can only be removed by the FAA once the pilot meets the directed experience requirements. Approving this exemption allows an existing AWPC production pilot to transition easily to the AW609. As the minimum crew for all flight conditions is two pilots, approving this exemption would allow AWPC to crew the AW609 with pilots with diverse experiences. This allows AWPC to leverage this pilot's wealth of experience in conducting functional check and acceptance test flights of AW609 aircraft before delivering the aircraft to a customer. Having an experienced production pilot ensuring the quality and airworthiness of AW609 aircraft measurably improves safety. Identical arguments can be made for Air Ambulance, Search and Rescue, and Offshore aviation operations.

These exemptions are consistent with ICAO Annex 01, Section 2.1.1.4 "Transitional measures related to the powered-lift category", which states that "the Licensing Authority may endorse a type rating for aircraft of the powered-lift category on an aeroplane or helicopter pilot licence. The endorsement of the rating on the licence shall indicate that the aircraft is part of the powered-lift category. The training for the type rating in the powered-lift category shall be completed during a course of approved training, shall take into account the previous experience of the applicant in an aeroplane or a helicopter as appropriate and incorporate all relevant aspects of operating an aircraft of the powered-lift category."

(f) Public Summary for Federal Register

AWPC requests an exemption from 14 CFR § 61 for pilots of the AW609 tiltrotor aircraft. The exemption proposes using the ICAO Annex 01, Section 2.1.1.4 "Transitional measures related to the powered-lift category" as the basis for powered lift crew licensing. The transitional measures allow a pilot with an existing airplane or helicopter license, plus AW609 Type Rating, to be certificated to operate an aircraft which is part of the powered lift category. The AW609 is a multi-capable aircraft that can provide, utility, VIP, Search & Air Rescue and air ambulance flight operations. This request is to support and facilitate AW609 flight operations in the National Airspace System.

(g) Additional information

AWPC anticipates that the AW609 will serve in SAR, EMS and para-public roles.

Tiltrotor Air Ambulance

The AW609 tiltrotor was specifically designed to meet the Air Ambulance requirements. Air Ambulance is an essential public service and the expectation of available medical services includes air ambulance transport. Medical advances have led to the "golden hour" for patient access to trauma centers that enable a higher survival expectation. Rural health care availability has declined due to cost and a commensurate consolidation of emergency capability at trauma centers. That access to trauma centers is directly tied to availability of high-speed transportation.

The AW609 will be certified with IFR capabilities including approaches (WAAS-GPS) to hospital heliports and pre-arranged rural patient transfer sights without any ground-based navigation aids. The benefit to the public is higher availability of service in adverse weather conditions below VFR weather minima and icing conditions. The public also benefits in that rural transport that would normally be by ground ambulance is now more accessible and expedited with the use of pre-arranged patient transfer points. With recent requirements and innovation in patient care, tiltrotors in this mission will now carry more medical equipment (such as heart-pumps, neo-natal units, and automatic CPR equipment) that significantly improve patient survivability in the "golden hour" of transport but which adds significant weight to the aircraft limiting range. However, the higher speed of a tiltrotor increases range and radius of action.

The granting of this petition would allow the AW609 to perform this role thereby better serving the American public, adding increased levels of safety and improving patient survivability.

Search and Rescue Operations

Beyond the *Air Ambulance* role identified above, the AW609 can be equipped with a hoist to perform search and rescue missions. With its speed and range, the AW609 can be in the search area and perform the search in airplane mode at low altitude. Once the survivors are located, it can convert and execute the rescue portion of the mission. This has potential to dramatically reduce the time from a distress call to receiving care.

The granting of this petition would allow the AW609 to perform this role thereby better serving the American public, adding increased levels of safety and improving patient survivability.

(h) Operations Outside the United States

Per 14 CFR §11.81(h), the applicant requests the privileges of this exemption be extended outside of the United States. The basis for this extra-territorial extension is the requirement to deliver aircraft on a worldwide basis.

Conclusion:

AWPC believes that the above arguments favor an exemption as noted in the various sections. In addition, AWPC believes that the exemption is in the public interest and likely improves the safety of complex flight operations by allowing experienced pilots to transition to fly the AW609.